Patterns of child location during a parent play task were evaluated among children with autism spectrum disorder (ASD) and non-ASD group during a parent-child free play task (PCFP). Parent-child interactions are a naturalistic method of measuring child behaviors and response to treatment. Manual coding of child behaviors is time-intensive and subjective. Video tracking (VT) offers an automated alternative to coding, yielding quantitative, objective measures of behaviors. This approach was recently applied to children with autism spectrum disorder (ASD) and a non-ASD group during a parent-child free play task (PCFP). Further research is needed to assess the validity and reliability of VT for school-aged children with ASD.

**Objectives**

For a 6-minute, lab-based PCFP with VT of school-aged children with ASD and TD, we aim to: 1) Determine relations among VT metrics across time points; 2) Examine correlations of VT metrics with child characteristics; 3) Assess longitudinal change, group differences, and covariate effects on VT metrics.

**Methods**

Participants were assessed at one of five sites at Baseline, 6 weeks, and 6 months. During a 6-minute PCFP, the child played with any of 8 standardized toys while the parent sat in a chair in the corner. The child wore a red shirt, which was tracked by Noldus EthoVision XT 11.5. Analyses include Pearson correlations and repeated measures models with covariates, including gender, age (high/low), and IQ (high/low for the ASD group).

**Background**

**Video Tracking Site-Specific Arenas**

**Correlations of VT Metrics Across Visits**

**Effects of Gender on Time Spent in ROIs**

**Sample of Child Movement Patterns**

**Patterns of child location during a parent-child free play are moderately associated across three visits.**

**Conclusions**

- No age (high/low) effects were found, but some trends of relations of age with VT metrics were evident.
- Within the ASD group, low IQ was associated with more time in the Parent ROI and less time in the Center ROI.
- Future analyses should examine site effects.
- Future studies should examine VT metrics of school-aged children with ASD during a play task with an unfamiliar peer.